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ACTN4 Antibody (C-term)

Purified Rabbit Polyclonal Antibody (Pab)
Catalog # AP7790b

Product Information

Application	WB, IHC-P, FC, E
Primary Accession	O43707
Reactivity	Human
Predicted	Mouse, Rat, Bovine, Canine, Chicken
Host	Rabbit
Clonality	Polyclonal
Isotype	Rabbit IgG
Clone Names	RB15705
Calculated MW	104854
Antigen Region	785-813

Additional Information

Gene ID	81
Other Names	Alpha-actinin-4, F-actin cross-linking protein, Non-muscle alpha-actinin 4, ACTN4
Target/Specificity	This ACTN4 antibody is generated from rabbits immunized with a KLH conjugated synthetic peptide between 785-813 amino acids from the C-terminal region of human ACTN4.
Dilution	WB~~1:1000 IHC-P~~1:100~500 FC~~1:10~50 E~~Use at an assay dependent concentration.
Format	Purified polyclonal antibody supplied in PBS with 0.09% (W/V) sodium azide. This antibody is prepared by Saturated Ammonium Sulfate (SAS) precipitation followed by dialysis against PBS.
Storage	Maintain refrigerated at 2-8°C for up to 2 weeks. For long term storage store at -20°C in small aliquots to prevent freeze-thaw cycles.
Precautions	ACTN4 Antibody (C-term) is for research use only and not for use in diagnostic or therapeutic procedures.

Protein Information

Name	ACTN4 (HGNC:166)
Function	F-actin cross-linking protein which is thought to anchor actin to a variety of intracellular structures. This is a bundling protein (Probable). Probably

	involved in vesicular trafficking via its association with the CART complex. The CART complex is necessary for efficient transferrin receptor recycling but not for EGFR degradation (PubMed:15772161). Involved in tight junction assembly in epithelial cells probably through interaction with MICALL2. Links MICALL2 to the actin cytoskeleton and recruits it to the tight junctions (By similarity). May also function as a transcriptional coactivator, stimulating transcription mediated by the nuclear hormone receptors PPARG and RARA (PubMed:22351778). Association with IGSF8 regulates the immune synapse formation and is required for efficient T-cell activation (PubMed:22689882).
Cellular Location	Nucleus. Cytoplasm. Cell junction {ECO:0000250|UniProtKB:P57780}. Cytoplasm, cytoskeleton, stress fiber. Cytoplasm, perinuclear region {ECO:0000250|UniProtKB:P57780}. Note=Localized in cytoplasmic mRNP granules containing untranslated mRNAs. Expressed in the perinuclear rim and manchette structure in early elongating spermatids during spermiogenesis (By similarity). Nuclear translocation can be induced by the PI3 kinase inhibitor wortmannin or by cytochalasin D. Exclusively localized in the nucleus in a limited number of cell lines (breast cancer cell line MCF-7, oral floor cancer IMC-2, and bladder cancer KU- 7). {ECO:0000250|UniProtKB:P57780, ECO:0000269|PubMed:17289661, ECO:0000269|PubMed:9508771}
Tissue Location	Widely expressed..

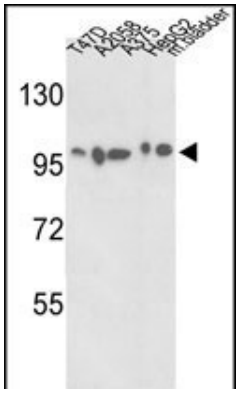
Background

Alpha actinins belong to the spectrin superfamily which represents a diverse group of cytoskeletal proteins, including the alpha and beta spectrins and dystrophins. Alpha actinin is an actin-binding protein with multiple roles in different cell types. In nonmuscle cells, the cytoskeletal isoform is found along microfilament bundles and adherens-type junctions, where it is involved in binding actin to the membrane. In contrast, skeletal, cardiac, and smooth muscle isoforms are localized to the Z-disc and analogous dense bodies, where they help anchor the myofibrillar actin filaments. This protein is a nonmuscle, alpha actinin isoform which is concentrated in the cytoplasm, and is thought to be involved in metastatic processes. Mutations in the gene encoding this protein have been associated with focal and segmental glomerulosclerosis.

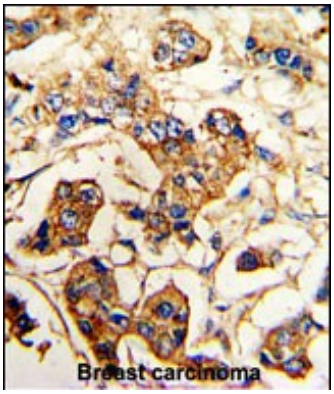
References

Kikuchi,S., Clin. Cancer Res. 14 (17), 5348-5356 (2008)
Barbolina,M.V., Lab. Invest. 88 (6), 602-614 (2008)
Kimura,M., Intern. Med. 47 (12), 1099-1106 (2008)

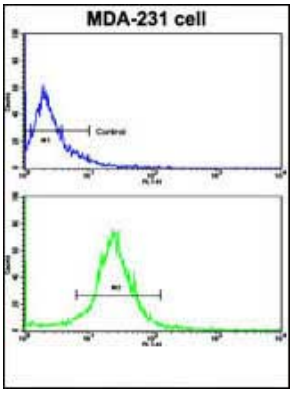
Images



Western blot analysis of ACTN4 Antibody (C-term) (Cat.#AP7790b) in T47D, A2058, A375, HepG2 cell line and mouse bladder tissue lysates (35ug/lane). ACTN4 (arrow) was detected using the purified Pab.



Formalin-fixed and paraffin-embedded human breast carcinoma reacted with ACTN4 Antibody (C-term), which was peroxidase-conjugated to the secondary antibody, followed by DAB staining. This data demonstrates the use of this antibody for immunohistochemistry; clinical relevance has not been evaluated.



Flow cytometric analysis of MDA-231 cells using ACTN4 Antibody (C-term)(bottom histogram) compared to a negative control cell (top histogram). FITC-conjugated goat-anti-rabbit secondary antibodies were used for the analysis.

Citations

- Alpha-Actinin-4 is a Possible Target Protein for Aristolochic Acid I in Human Kidney Cells In Vitro.

Please note: All products are 'FOR RESEARCH USE ONLY. NOT FOR USE IN DIAGNOSTIC OR THERAPEUTIC PROCEDURES'.